

Title (en)

COMPLIANT SEAL STRUCTURES FOR PROTECTED ACTIVE METAL ANODES

Title (de)

KONFORME STRUKTUREN FÜR GESCHÜTZTE, AKTIVE METALLANODEN

Title (fr)

STRUCTURES DE SCELLEMENT ÉLASTIQUES POUR ANODES À MÉTAL ACTIF PROTÉGÉES

Publication

EP 1917689 A2 20080507 (EN)

Application

EP 06813340 A 20060808

Priority

- US 2006030985 W 20060808
- US 70688605 P 20050809
- US 71366805 P 20050902

Abstract (en)

[origin: US2007037058A1] Protected anode architectures have ionically conductive protective membrane architectures that, in conjunction with compliant seal structures and anode backplanes, effectively enclose an active metal anode inside the interior of an anode compartment. This enclosure prevents the active metal from deleterious reaction with the environment external to the anode compartment, which may include aqueous, ambient moisture, and/or other materials corrosive to the active metal. The compliant seal structures are substantially impervious to anolytes, catholytes, dissolved species in electrolytes, and moisture and compliant to changes in anode volume such that physical continuity between the anode protective architecture and backplane are maintained. The protected anode architectures can be used in arrays of protected anode architectures and battery cells of various configurations incorporating the protected anode architectures or arrays.

IPC 8 full level

H01M 4/02 (2006.01); **H01M 4/13** (2010.01); **H01M 4/134** (2010.01); **H01M 50/105** (2021.01); **H01M 50/184** (2021.01); **H01M 50/186** (2021.01); **H01M 50/191** (2021.01); **H01M 50/193** (2021.01); **H01M 50/195** (2021.01); **H01M 50/197** (2021.01); **H01M 50/451** (2021.01); **H01M 50/497** (2021.01); **H01M 4/131** (2010.01); **H01M 4/133** (2010.01); **H01M 10/052** (2010.01); **H01M 10/36** (2010.01); **H01M 50/457** (2021.01)

CPC (source: EP KR US)

H01B 1/122 (2013.01 - EP KR US); **H01G 11/56** (2013.01 - EP US); **H01M 4/04** (2013.01 - KR); **H01M 4/13** (2013.01 - EP US); **H01M 4/131** (2013.01 - KR); **H01M 4/133** (2013.01 - KR); **H01M 4/134** (2013.01 - EP KR US); **H01M 6/34** (2013.01 - EP KR US); **H01M 6/42** (2013.01 - KR); **H01M 12/065** (2013.01 - EP US); **H01M 50/105** (2021.01 - EP KR US); **H01M 50/184** (2021.01 - EP KR US); **H01M 50/186** (2021.01 - EP KR US); **H01M 50/191** (2021.01 - EP KR US); **H01M 50/193** (2021.01 - EP KR US); **H01M 50/195** (2021.01 - EP KR US); **H01M 50/197** (2021.01 - EP KR US); **H01M 50/451** (2021.01 - EP KR US); **H01M 50/463** (2021.01 - KR); **H01M 50/497** (2021.01 - EP KR US); **H01M 4/131** (2013.01 - EP US); **H01M 4/133** (2013.01 - EP US); **H01M 6/42** (2013.01 - EP US); **H01M 10/052** (2013.01 - EP US); **H01M 50/457** (2021.01 - EP US); **H01M 2004/021** (2013.01 - EP KR US); **Y02E 60/10** (2013.01 - EP KR); **Y02E 60/13** (2013.01 - US); **Y10T 29/4911** (2015.01 - EP US)

Cited by

EP4328990A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

US 2007037058 A1 20070215; **US 7824806 B2 20101102**; AU 2006280097 A1 20070222; BR PI0614743 A2 20110412; CA 2618635 A1 20070222; CA 2618635 C 20120424; CN 101313426 A 20081126; CN 101313426 B 20121212; EP 1917689 A2 20080507; EP 1917689 A4 20110330; EP 1917689 B1 20171108; JP 2009505355 A 20090205; JP 5364373 B2 20131211; KR 101287848 B1 20130723; KR 20080036139 A 20080424; MX 2008002074 A 20080422; WO 2007021717 A2 20070222; WO 2007021717 A3 20071004

DOCDB simple family (application)

US 50167606 A 20060808; AU 2006280097 A 20060808; BR PI0614743 A 20060808; CA 2618635 A 20060808; CN 200680037611 A 20060808; EP 06813340 A 20060808; JP 2008526152 A 20060808; KR 20087005683 A 20060808; MX 2008002074 A 20060808; US 2006030985 W 20060808